



# HILLnews

THE QUARTERLY NEWSLETTER FROM HILL LABORATORIES → ISSUE No.13 March 2011

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## STATUS UPDATE FOR OUR LABORATORY AFTER THE CHRISTCHURCH EARTHQUAKE

IN THIS NEWSLETTER WE SEND  
OUR THOUGHTS, HOPES AND PRAYERS  
OUT TO ALL THOSE AFFECTED  
BY THE RECENT EARTHQUAKE IN  
CHRISTCHURCH.

As you may know we have a Laboratory in Christchurch. Our Laboratory was closed immediately after the earthquake. We have found that the Lab was unaffected by the earthquake and so has reopened and now continues to process samples. We have largely maintained normal hours of operation during February and early March despite the earthquake, and are now fully operational.

We would like to offer our thanks to all our clients for their patience and to our staff for their support during this time.

**For updated information about our Christchurch laboratory please go to [www.hill-laboratories.com](http://www.hill-laboratories.com).**

Our laboratory services in the North Island remain unaffected.



## HILL LABORATORIES

**NOW  
AVAILABLE**

# CANISTER SAMPLING SERVICE FOR TAKING AIR SAMPLES



**ON THE 1ST OF MARCH 2011, HILL LABORATORIES LAUNCHED ITS NEW CANISTER SAMPLING SERVICE FOR CUSTOMERS THAT WANT A FAST AND EASY AIR SAMPLING SOLUTION.**

The service uses state of the art technology developed by Entech and is the first of its kind to be offered by a New Zealand based laboratory.

The traditional sorbent tube method still provides a sampler with a cost effective 'fit for purpose' sampling mechanism. However the canister sampling service supplies the following main benefits when compared to sorbent tubes.

1. Pumps are no longer required. This means calibration is no longer a problem – simply turn the valve on the canister to begin sampling the air
2. Submit the canister to our laboratory in New Zealand and you'll take advantage of a quick turnaround time without the need to transport the sample offshore
3. Sample dilution during analysis is possible for the first time
4. Samplers can capture Vinyl Chloride plus other less volatile chlorinated VOC's during the same sampling event which may reduce the cost of testing

Our sampling service meets oil industry standards and is typically used for soil vapour sampling, sub-slab and vapour intrusion monitoring, plus ambient monitoring.

## TO FIND OUT MORE

To find out more about the canister sampling service please visit our website [www.hill-laboratories.com](http://www.hill-laboratories.com) and click on Canister Sampling or call Ian Graves on 07 853 2503.

## HILL LABORATORIES

**FASTER  
TURNAROUND**

**IMPROVED  
INVOICING**

**MORE CLIENT  
SERVICE MANAGERS**

**UPGRADED  
WEBSITE**

# CUSTOMER SATISFACTION SURVEY

**THANK YOU TO ALL THOSE CUSTOMERS THAT FILLED OUT THE 2011 CUSTOMER OPINION SURVEY. WE RECOGNISE THAT THIS SURVEY TAKES A BIT OF TIME TO WORK THROUGH AND WE APPRECIATE THE TIME THAT YOU HAVE TAKEN TO GIVE US YOUR FEEDBACK.**

The results from the survey are compiled each year, analysed and a list of actions are put in place to ensure we continue to provide the best laboratory service on the market. **Rest assured that the time you spend completing your survey is well spent.** We'd like to provide you with just a few actions we have completed following previous customer feedback.

#### **1. The time it takes to get results.**

During the last three years we have managed to successfully reduce the time it takes from sample submission to results going to the customer.

#### **2. Improved our invoicing.**

We have modified our invoicing to ensure that you can match your quote with your invoice. This came about because of suggestions made by several customers

#### **3. We have employed more client service managers.**

Since starting the surveys we have increased our level of resources in this area considerably.

#### **4. Our website has been upgraded**

to provide you with a content-rich site that you can use as a reference tool. We have also introduced **MYLAB** an on-line tool that can be used by our customers to track the progress of their testing in the lab.

These are just some of the improvements that have been made as a result of customer feedback via the survey. If you haven't completed the survey there is still time to make your opinion count as we look for more ways to improve our laboratory for you.



## HILL LABORATORIES

# NEW PRICING

**On the first of March, Hill Laboratories will implement a company wide pricing update.** The update this year is very minor. The prices of most tests remain unchanged with only a few tests receiving inflationary level price changes. If you have a current quote your pricing will be unaffected by this change until the expiry date on the quote.

## HILL LABORATORIES STAFF PROFILES



### TERRY COONEY

**Some of you will already know Dr Terry Cooney as one of the main architects driving the growth of Hill Laboratories as it established itself as a leading testing provider.**

A few years ago Terry left the company to pursue other interests but recently agreed to return to the laboratory and he will now become the Environmental Divisional Manager replacing Sean Clearkin.

If you would like to contact Terry you can call him on **07 858 2000** or send him an e-mail at [terry.cooney@hill-labs.co.nz](mailto:terry.cooney@hill-labs.co.nz)



### PAUL SUTHERLAND

**We are pleased to introduce Paul Sutherland**, who started as Manager of our Agriculture Division in January."

#### RELEVANT EXPERIENCE AND BACKGROUND:

Drawn to situations where technical complexity must be managed alongside an uncompromising demand for exceptional quality.

Paul hails from a Waikato dairy farming family and started his career with many years of hands-on laboratory experience at the Dairying Research Corporation in Hamilton, before travelling to Ireland.

As well as starting a family there, he took responsibility for sales of analytical equipment to laboratories and the implementation of advanced process-monitoring technologies in pharmaceutical manufacturing sites.

Since returning to NZ, he has held senior business development and leadership roles, including responsibility for the manufacture of medical devices and other technical components.

Paul joined Hill Laboratories in 2009 in a strategic business development capacity.

QUALIFICATIONS: BSc Chemistry

#### CONTACT DETAILS

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AGRICULTURAL

# THE VALUE IN SOIL TESTING

**HILL LABORATORIES BRAND STRAPLINE "BETTER TESTING, BETTER RESULTS" IS NEVER TRUER THAN IN THE CASE OF SOIL TESTING FOR MONITORING NUTRIENTS AND DECISIONS FOR FERTILISER APPLICATION.**

With fertiliser being one of the highest farm expenses, and likely to stay that way for the foreseeable future, it makes sense to ensure the soil test programme in place provides the best value in terms of return for \$ spend of this fertiliser.

It is well known that soil test variability can be quite high as shown in Table 1 below, which shows results from trials carried out by Edmeades et al for the tests most commonly carried out by farmers.

**Table 1: Typical variability in laboratory soil tests\***

Soil Test	Variability (%)
pH	2-5
Ca	10-15
K	20-30
Mg	10-15
Olsen P	15-20
Sulphate-S	20-40

Source: Edmeades, D.C.; Cornforth, I.S.; Wheeler, D.M. 1985. N Z Fertiliser Journal



This means, for instance, that an Olsen P result of 20 is most likely to be somewhere between 16 and 24; or a pH of 6.0 probably lies between 5.8 and 6.2 - due to the sum of laboratory and field-sampling variation.

As discussed in a previous newsletter (Issue 3, 2008), soil test variability can be attributed to temporal, spatial and laboratory variation i.e. changes with time, space or analytical conditions. Since analytical methods in the laboratory are tightly controlled this area of variation is in fact very small when compared to the changes in soil in the field over time and space. As temporal variation was described in some detail in the 2008 newsletter (refer to [www.hill-laboratories.com](http://www.hill-laboratories.com) for a copy), this article will discuss aspects of *spatial* variability - and how this variability can be overcome somewhat in order to gain reliable soil nutrient information.

Sample depth is one aspect of spatial variability that must be considered. Typically soil nutrients are highest in the topmost fraction of the soil for uncultivated soils, as shown in Table 2, where an investigative exercise which analysed soil samples taken at different depths gave these results.

**Table 2: Example of change in nutrients with soil depth**

(uncultivated soil)

Soil Depth	pH	Olsen P (mg/L)	Calcium (MAF Units)
0-1"	7.0	60	20
1-2"	6.2	24	10
2-3"	5.8	9	6
3-4"	5.7	7	4
4-5"	5.6	4	3
5-6"	5.6	2	3
<b>Effect of Sampling Depth</b>			
0-3" (0-75mm)	6.3	31	12
0-6" (0-150mm)	5.9	18	8

Hill Laboratories now reports sample depth on the test report (if this has been supplied by the customer on the analysis request form) so that results can be interpreted in the correct terms of reference. For example, the convention for pasture soil is to sample at 0-75mm (0-3") and for cropping soils 0-150mm (0-6"). Medium range histograms on reports have values based on this sampling regime, so sample depths different to these will mean altered interpretation in all likelihood.

The reporting of sample depth is also critical when tests for contaminants such as Cadmium (Cd) and Copper (Cu) are carried out - any regulatory values must also describe what sample depth these apply to. **CONTINUED OVERLEAF**

## AGRICULTURAL

# THE VALUE IN SOIL TESTING (CONT)

Spatial variability is also attributable to such factors as slope, change in soil type, compaction, uneven return of dung and urine and variation in previous fertiliser spreading. This will mean within-paddock variability as well as between-paddock variability. Within-paddock variability is minimised by taking the optimum number of soil plugs from a GPS located sampling transect – increasing the numbers of plugs from perhaps more than one mid-slope transect for hill country.

Between-paddock variation can be reduced by taking **more samples per farm**. The price of soil testing will still be low relative to the fertiliser spend and ensures good environmental stewardship as well as nutrient supply.



Soil sampling for fertiliser decisions has traditionally been done by dividing farms up into representative blocks and then applying “blanket” rates of fertiliser to those blocks. More recently, studies are highlighting considerable paddock variability that represents lost opportunity (where nutrients lower than optimum) or environmental risk (where nutrients higher than optimum). Hill Laboratories **All Paddock Testing (APT)** package (to learn more about APT visit [www.hill-laboratories.com](http://www.hill-laboratories.com)) has been created to allow farmers to benchmark the nutrient status of each paddock – to ensure efficient use of fertiliser and to ensure their “block” definition is an accurate monitor. The package of tests is made affordable by use of new technologies – and new spreading technologies are becoming available in many areas to ensure nutrients are applied only where they are needed i.e. Better Testing, Better Results!

## NEWS IN BRIEF

### FEED SAMPLE BAGS

Customers are reminded to ask for Feed Sample Bags (as opposed to plant sample bags) for all tests looking at feed quality – to try to minimise any moisture losses while their sample is in transit so that a reasonable measurement for DM% can be made. The results obtained for a Feed Test are really only as good as the sample received at the laboratory – South Island customers should also ensure they have courier bags addressed to our laboratory in Christchurch, so that transport time is minimised.

### SILAGE SAMPLE TESTING

We have recently improved our test offering for Silage samples so that the addition of the Volatile Fatty Acid (VFA) profile is much more affordable. The VFA test provides some useful information on how well fermented the silage is, and together with DM%, pH and NH<sub>4</sub>:TN helps assist with feeding or storage decisions for this valuable feed resource. Feed quality analysis is essential when balancing diets for critical stages of lactation or animal production.

Several Technical Notes are provided by the laboratory to help with such subjects as sampling correctly for Dry Matter tests, Feed Quality and Silage test Interpretation as well as a host of information on soil testing. Two new technical notes planned for this year will discuss trace elements for animal health, in terms of pasture and livestock water. Please keep watch on the publications page of our website [www.hill-laboratories.com](http://www.hill-laboratories.com).

### DAIRY EFFLUENT ANALYSIS

Analysis of Dairy Effluent is recommended both to meet application resource consent and to make the best of this readily available nutrient resource! Sampling kits complete with instructions on how to sample (and a glove) are available upon request to the laboratory or simply order online.

## ENVIRONMENTAL

# ENVIRONMENTAL CATALOGUE UPDATE

### THE UPDATED ENVIRONMENTAL CATALOGUE IS NOW AVAILABLE.

Prices for testing are now only located in chapter 3 "Summary of Pricing". In future updates only chapter 3 will be sent out to clients.

New tests in the catalogue include Amine Acid Chelating Agents (EDTA, NTA in drinking water)(8.41) and Microcystins (8.42). All clients that have received catalogues in the past will receive new copies.

If you would like one or if you spot any errors in it, please contact Ara Heron at [ara.heron@hill-labs.co.nz](mailto:ara.heron@hill-labs.co.nz).



## HANDY CONTAINER GUIDE

NEW

MAKE SURE YOU GET YOUR HANDY POCKET CONTAINER GUIDE WITH YOUR NEW CATALOGUE. TO ORDER, CALL 07 858 2000.



# ESDAT DATA FORMAT NOW AVAILABLE

A NUMBER OF CUSTOMERS HAVE REQUESTED THAT HILL LABORATORIES DEVELOP THE CAPABILITY TO REPORT THEIR RESULTS IN A WAY THAT MEETS THE ESDAT ENVIRONMENTAL DATA MANAGEMENT SOFTWARE REQUIREMENTS.

We are pleased to inform those customers that we now have this capability available upon request. **Please contact an Environmental Client Service Manager if you wish to receive ESDAT reports for all/some of your projects.**



## FOOD & BIOANALYTICAL

# TUTIN TESTING OF HONEY

**WITH THE RECENT CHANGES TO THE TUTIN FOOD STANDARD, ALL BEEKEEPERS AND HONEY PROCESSORS WHO ARE REQUIRED TO TEST FOR TUTIN ARE NOW OBLIGATED TO SUPPLY RESULTS TO THE NZFSA.**

Hill Labs can help you with this process! We can supply you with the NZFSA required Tutin Appendix, along with our submission form and we also have a Tutin composite table with full pricing information to help you decide on the most cost effective and value for money option.

You will need to fill out the Tutin Appendix and send this to either the NZFSA once testing is complete or send it to the lab along with your samples and request that we report directly to the NZFSA. If you would like the laboratory to send a copy of your Tutin report to the NZFSA, you will need to supply a copy of Tutin Appendix with all fields filled out (except for the result and date reported). You must also give the lab written instructions to do so; we will not release results to a third party at any stage without express permission from you, the client.

Hill Labs offers friendly, personal service along with competitive pricing, composite choices controlled by the client, fast turnaround and reliable results.



### HONEY NEWS ▲

New from Hill Laboratories and available free to all our existing clients.

**HONEY NEWS** features regular test updates, test profiles, customer profiles and more!

If you have not received your copy, please contact your CSM and we'll be happy to get one in the post to you immediately!



## COMPOSITING OF HONEY SAMPLES

This service is offered for Tutin testing only. The Tutin Food Standard published by the NZFSA/MAF states that compositing of samples must be done by the laboratory but this applies only to samples for Tutin analysis.

We cannot composite samples together for any other test. If you have batch or drum samples for Non Peroxide Activity (NPA), Methylglyoxal or any other testing, you are able mix these samples yourself and send them to the lab for analysis.

If you have any questions regarding this or would like more information, please **contact Chris on 07 857 0607** or [chris.berkers@hill-labs.co.nz](mailto:chris.berkers@hill-labs.co.nz) and she'll be happy to talk with you.

■ We hope you enjoyed reading HILLNEWS.

If you'd like to see other areas of content covered – in particular certain technical areas – or you feel you have suggested improvements, please write to Martin Lovell at; [martin.lovell@hill-labs.co.nz](mailto:martin.lovell@hill-labs.co.nz)